

**Department of Energy**  
Germantown, MD 20874-1290

DEC 07 1999

Mr. S.D. Liedle  
President  
Bechtel Hanford, Inc.  
3350 George Washington Way  
Richland, Washington 99352

Dear Mr. Liedle:

This letter responds to Bechtel Hanford, Incorporated's (BHI) request for exemption from the requirements of sections 835.405(b)(1) and (b)(2) of Title 10, Code of Federal Regulations, Part 835 (10 CFR 835), "Occupational Radiation Protection." The referenced sections establish requirements for monitoring of packages of radioactive material received from radioactive material transportation. BHI has indicated that establishment of appropriate programs to ensure compliance with these requirements would create an undue burden when applied to shipments of certain radioactive material packages between Environmental Restoration Contract project sites and the Environmental Restoration Disposal Facility.

The Office of Worker Health and Safety (EH-5) has conducted a technical review of the exemption request. Based on this review and ensuing discussions with members of your staff, EH-5 has determined that resolution of your concerns may be achieved through the following clarification of the requirements and their applicability to the operations in question.

- The referenced regulatory requirements apply to packages received from "radioactive material transportation," which is a term defined in 10 CFR 835.2(a). The regulatory definition limits the scope of this term to movements of radioactive material that are subject to Department of Transportation (DOT) regulations or Department of Energy (DOE) Orders governing such transportation.
- The applicability of DOT regulations and the corresponding DOE Orders (DOE 460 Series Orders) is limited by the included definition of the term "radioactive material," which excludes those materials having a specific activity below 0.002 microcuries per gram.
- BHI's exemption request indicates that the material in question "consists mostly of low level contaminated soil and debris which does not meet the criteria (stated in 49 CFR and DOE Guide 460.2) for 'radioactive material' because the waste has a specific activity of less than 2 nCi/gram."



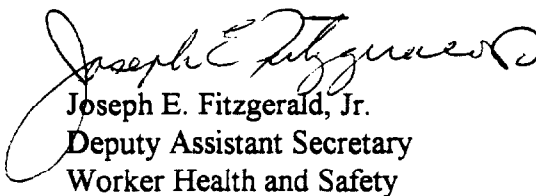
If the material does not meet the joint DOT/DOE threshold defining radioactive material (for transportation purposes only), then DOE does not consider the shipments in question to be "radioactive material transportation," as defined at 10 CFR 835.2(a). These shipments would therefore be exempted from the requirements of 10 CFR 835.405(b)(1) and (b)(2) and no exemption is necessary.

Based on the information provided, EH-5 has determined that the monitoring requirements of § 835.405(b)(1) and (b)(2) do not apply to the majority of the shipments in question due to the low specific activity of the material being transported. Therefore, no exemption is necessary to facilitate the ongoing accomplishment of BHI's mission. However, because the majority of these shipments do not meet the 10 CFR 835.2(a) definition of "radioactive material transportation," they are also not covered by the § 835.1(b)(4) exclusion for "radioactive material transportation," and are therefore subject to the requirements of 10 CFR 835. DOE encourages BHI to review the programs currently in place to ensure they are consistent with the applicable regulatory requirements.

The Technical Review enclosed with this correspondence provides further explanation and clarification of the issues considered by DOE in reaching this conclusion.

The DOE's Office of Environmental Management (EM) staff concur with this response.

Sincerely,

  
Joseph E. Fitzgerald, Jr.  
Deputy Assistant Secretary  
Worker Health and Safety

Enclosure

cc w/enclosure:

Carolyn Huntoon, EM-1

Maria Gavrilas-Guinn, EM-4

Brenda M. Pangborn, RL

Keith Christopher, Office of Enforcement  
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Radiological Control Coordinating  
Committee

Price Anderson Amendments Act  
Coordinators

**Technical Review**

**Bechtel Hanford, Inc. Request for Exemption from Title 10 Code of Federal Regulations, Part 835.402(b)(1) and (b)(2)**

Pursuant to the requirements of 10 CFR 820.62, Bechtel Hanford, Inc. (BHI), has requested an exemption from certain requirements of 10 CFR 835, *Occupational Radiation Protection*. Specifically, BHI has sought relief from the requirements of 10 CFR 835.405(b)(1) and (b)(2), which require radiological monitoring of certain packages received from radioactive material transportation. The packages in question are exclusive use, drag-on/drag-off bulk waste containers that are transported between Environmental Restoration Contract (ERC) project sites and the Environmental Restoration Disposal Facility (ERDF).

**Discussion**

**Request**

BHI submitted a request for exemption from 10 CFR 835.405(b)(1) and (2) pertaining to receipt monitoring for exclusive use, drag-on/drag-off bulk container waste shipments between ERC project sites and the ERDF.

In the exemption request, BHI indicates that the process developed and in use for almost three years to process and monitor over 60,000 shipments would need to be substantially modified to accommodate the new requirements relating to monitoring of packages received from radioactive material transportation. BHI's exemption request describes special circumstances that warrant the exemption.

According to 10 CFR 820.62(d), criteria for exemption relief, the exemption must involve one of six special circumstances. These special circumstances include the following:

- Application of the requirement in the particular circumstances conflicts with other requirements; or
- Application of the requirement in the particular circumstances would not serve or is not necessary to achieve its underlying purpose, or would result in resource impacts, which are not justified by the safety improvements; or
- Application of the requirement would result in a situation significantly different than that contemplated when the requirement was adopted, or that is significantly different from that encountered by others similarly situated; or
- The exemption would result in benefit to human health and safety that compensates for any detriment that may result from the grant of the exemption; or

- Circumstances exist that would justify temporary relief from application of the requirement while taking good faith action to achieve compliance; or
- There is present any other material circumstance not considered when the requirement was adopted for which it would be in the public interest to grant an exemption.

BHI justifies their exemption request by stating that “due to the frequency of use and controls in place during filling and dumping each shipment, no undue risk is present to the public health and safety, the environment, or facility workers.”

BHI indicates that the bulk waste containers and transport vehicles used by the ERC are transported by a commercial carrier. The carrier transports only waste, consisting mostly of low-level contaminated soil and debris, from various ERC project sites to the ERDF. BHI has indicated that the waste “consists mostly of low level contaminated soil and debris which does not meet the criteria [stated in 49 CFR and DOE G 460.2] for ‘radioactive material’ because the waste has a specific activity of less than 2 nCi/gram.” The waste must also meet the ERDF waste acceptance criteria, which lists radionuclide-specific concentration limits.

The BHI exemption request discusses “special circumstances which warrant the exemption.” These special circumstances include:

- The significant increase in radiological control technician staffing that would be required to perform receipt surveys.
- Potential impact on other project scopes and schedules by diverting resources from the decontamination and decommissioning effort.
- Experience demonstrates no identified contamination in the radioactive material area or on pre-shipment surveys of approximately 60,000 loaded containers.
- Post-shipment inspections and surveys for identified and potentially degraded packages will be performed as required by §835.405(b)(3).

The exemption request includes four mitigating actions:

- Except when in transport, the shipping containers are always maintained in posted areas within controlled areas on the Hanford Site.
- Routine inspections of the transport containers are performed to identify possible degradation and additional radiological surveys are performed as necessary.
- The posted radioactive materials areas where the shipping containers are staged are on a routine survey frequency.
- The waste containers rarely enter contaminated areas and are surveyed prior to release from the radiological buffer area where loaded or emptied.

## Requirements from Which Exemption is Sought

§ 835.405 Receipt of packages containing radioactive material.

- (b) Upon receipt from radioactive material transportation, external surfaces of packages known to contain radioactive material shall be monitored if the package:
  - (1) Is labeled with a Radioactive White I, Yellow II, or Yellow III label (as specified at 49 CFR 172.403 and 172.436-440); or
  - (2) Has been transported as low specific activity material on an exclusive use vehicle (as defined at 10 CFR 71.4); ...

## Analysis

The Office of Worker Protection Programs and Hazards Management (EH-52) has reviewed the BHI exemption request and provides the following analysis.

The applicability of the referenced requirements is contingent on the phrase “received from radioactive material transportation.” The term “radioactive material transportation” is defined at § 835.2(a) as follows:

Radioactive material transportation means the movement of radioactive material having a specific activity in excess of 0.002 microcurie per gram by aircraft, rail, vessel, or highway vehicle **when such movement is subject to Department of Transportation (DOT) regulations or Department of Energy (DOE) Orders governing such movements** [emphasis added]. Radioactive material transportation does not include preparation of material or packagings for transportation, monitoring required by this part, storage of material awaiting transportation, or application of markings and labels required for transportation.

Obviously, the application of these requirements is further contingent on the applicability of the referenced DOT regulations and DOE Orders (DOE 460 Series). The applicability of both the DOT regulations and DOE Orders is limited to shipments of materials having a specific activity exceeding 0.002 microcuries per gram.

BHI has indicated that the specific activity of most of the transported material is less than 2 nCi/gram (0.002 microcuries per gram); therefore, DOE would not consider these shipments to be “subject to Department of Transportation regulations or DOE Orders that govern such movements” as specified in the definition of “radioactive material transportation” provided at § 835.2(a). During follow-up discussions, BHI has indicated that it is practical to identify those shipments in which the specific activity of the material does exceed the specified threshold and to selectively apply the monitoring requirements to those shipments. Therefore, no exemption is required.

Please note that, because most of these shipments do not constitute "radioactive material transportation," they are not covered by the exclusion for "radioactive material transportation" provided at § 835.1(b)(4). These shipments are therefore subject to all other applicable requirements of 10 CFR 835. Applicable requirements may include, but not be limited to, area posting, package labeling, individual and area monitoring, radiation safety training, and recordkeeping. Title 10 CFR 835 does, however, provide ample flexibility to accommodate reasonable practices that may be applied to this specific situation, such as the substitution of transportation labels for some other prescribed postings and labels.

## **Conclusion**

The applicability of the provisions of § 835.405(b)(1) and (b)(2) is limited by definitions of the included terms. BHI has indicated that it can identify those few shipments to which the monitoring requirements of § 835.405(b)(1) and (b)(2) apply and implement an appropriate monitoring program as necessary to demonstrate compliance with the applicable transportation requirements, without creating an undue burden. Therefore, BHI has not demonstrated the need for a regulatory exemption.

The majority of the shipments are not addressed by the 10 CFR 835.2(a) definition of the term "radioactive material transportation" because the specific activity is less than 0.002 microcuries per gram. These shipments are subject to the requirements of 10 CFR 835 and must be handled in compliance with the applicable requirements of that rule.

Note that this clarification applies only to those shipments having a specific activity that is less than the joint DOT/DOE threshold defining "radioactive material" for transportation purposes (specifically, 0.002 microcuries per gram). It does not apply to shipments in which the specific activity exceeds the specified threshold, which would be subject to the applicable transportation requirements of the DOT/DOE. Furthermore, the applicability of the remaining requirements of 10 CFR 835 is not in any way limited by the referenced definition of the term "radioactive material," which is used only to determine applicability of the referenced hazardous materials transportation regulations and corresponding DOE Orders.